AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims

1. (Currently Amended) A communication apparatus running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising:

a first protocol implementation unit for running a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one destination;

a second protocol implementation unit for running a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node, wherein the user adaptation layer is selected from a group consisting of:

a signaling connection control part (SCCP) user adaptation layer (SUA);

~~an~~ a Message Transfer Part Level 3 (MTP3) user adaptation layer (M3UA) according to Signaling Transport (SIGTRAN) protocol stacks;

an ISDN user adaptation layer (IUA); and

a V5.2 user adaptation layer; and

a name mapping unit for receiving a signaling target node name from said signaling source node and for mapping the signaling target node name into a destination.

2. (Original) The communication apparatus of claim 1, wherein said destination is a peer signaling association.

3. (Original) The communication apparatus of claim 1, wherein said destination is a transport address.

4. (Previously Presented) The communication apparatus of claim 1, wherein said name mapping unit is implemented in the second protocol implementation unit.

5. (Previously Presented) The communication apparatus of claim 2, wherein said name mapping unit includes a mapping data interface unit for distributing and/or receiving signaling association attributes via the signaling control layer.

6. (Previously Presented) The communication apparatus of claim 3, wherein said name mapping unit includes a mapping data interface unit for distributing and/or receiving transport address attributes via the signaling control layer.

7. (Previously Presented) The communication apparatus of claim 2, wherein said name mapping unit includes a memory unit for storing signaling association attributes locally in the communication apparatus.

8. (Previously Presented) The communication apparatus of claim 3, wherein said name mapping unit includes a memory unit for storing transport address attributes locally in the communication apparatus.

9. (Original) The communication apparatus of claim 3, wherein said transport address is an IP address.

10. (Canceled)

11. (Previously Presented) A communication apparatus running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising:

a first protocol implementation unit for running a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one destination;

a second protocol implementation unit for running a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node; and

a name mapping unit for receiving a signaling target node name from the signaling source node and for mapping the signaling target node name into a signaling target, said mapping unit further comprising a target node name resolution unit for mapping the signaling target into the destination according to a specified algorithm;

wherein when mapping the signaling target node name into the destination, the target node name resolution unit considers at least one criterion selected from a group consisting of target node capability, target node load, and routing criteria association attributes.

12. (Original) The communication apparatus of claim 11, wherein said destination is a peer signaling association.

13. (Original) The communication apparatus of claim 11, wherein said destination is a transport address.

14. (Original) The communication apparatus of claim 11, wherein said target node name resolution unit is of a client/server type responding to name translation requests from signaling source node clients in a local and/or remote manner.

15. (Canceled)

16. (Currently Amended) A communication apparatus running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising:

a first protocol implementation unit for running a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one destination;

a second protocol implementation unit for running a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node, wherein the user adaptation layer is selected from a group consisting of:

a signaling connection control part (SCCP) user adaptation layer (SUA);

~~an~~ a Message Transfer Part Level 3 (MTP3) user adaptation layer (M3UA) according to Signaling Transport (SIGTRAN) protocol stacks;

an ISDN user adaptation layer (IUA); and

a V5.2 user adaptation layer; and

a name mapping unit for receiving a signaling target node name from the signaling source node and for mapping the signaling target node name into a destination, said name mapping unit further comprising a fault management unit for detecting an inoperative destination and for selecting another destination under the same signaling target node name.

17. (Previously Presented) The communication apparatus of claim 16, wherein said destination is a peer signaling association and said fault management unit includes means for detecting an inoperative peer signaling association and/or an inoperative signaling transport address in a peer signaling association and for selecting another signaling transport address under the same signaling target node name.

18. (Previously Presented) The communication apparatus of claim 16, wherein said destination is a transport address and said fault management unit includes means for detecting an inoperative transport address and for selecting another transport address under the same signaling target node name.

19. (Previously Presented) A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, said method comprising:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchange of signaling data via at least one destination;

running a user adaptation layer of the protocol stack on top of said signaling control layer for support of signaling connection control services used by the signaling source node; and

receiving a signaling target node name from the signaling source node and mapping said signaling target node name into a destination.

20. (Original) The method of claim 19, wherein said destination is a peer signaling association.

21. (Original) The method of claim 19, wherein said destination is a transport address.

22. (Previously Presented) The method of claim 20, further comprising checking an availability of the peer signaling association and triggering a build-up thereof.

23. (Previously Presented) The method of claim 19, further comprising distributing and/or receiving destinations via the signaling control layer.

24. (Previously Presented) The method of claim 20, further comprising storing signaling association attributes locally at the signaling source node.

25. (Previously Presented) The method of claim 21, further comprising storing transport address attributes locally at the signaling source node.

26. (Original) The method of claim 21, wherein said transport address is an IP address.

27. (Currently Amended) The method of claim 19, wherein the user adaptation layer is selected from a group consisting of:

a signaling connection control part (SCCP) user adaptation layer (SUA);

~~an~~ a Message Transfer Part Level 3 (MTP3) user adaptation layer (M3UA) according to Signaling Transport (SIGTRAN) protocol stacks;

an ISDN user adaptation layer (IUA); and

a V5.2 user adaptation layer.

28. (Previously Presented) A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, said method comprising:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchanging signaling data via at least one destination;

running a user adaptation layer of the protocol stack on top of the signaling control layer for supporting signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node; and

mapping the signaling target node name into a destination said mapping step being carried out according to a specified algorithm.

29. (Original) The method of claim 28, wherein said destination is a peer signaling association.

30. (Original) The method of claim 28, wherein said destination is a transport address.

31. (Original) The method of claim 28, wherein said specified algorithm is a query responsive database algorithm.

32. (Original) The method of claim 28, wherein said specified algorithm is a table lookup algorithm.

33. (Previously Presented) A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, said method comprising:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchanging signaling data via at least one destination;

running a user adaptation layer of the protocol stack on top of the signaling control layer for supporting signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node; and

mapping said signaling target node name into a destination, said mapping step including considering at least one criterion selected from a group consisting of target node capability, target node load, and routing criteria destination attributes.

34. (Original) The method of claim 33, wherein said destination is a peer signaling association.

35. (Original) The method of claim 33, wherein said destination is a transport address.

36. (Previously Presented) A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, said method comprising:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchanging signaling data via at least one destination;

running a user adaptation layer of the protocol stack on top of said signaling control layer for supporting signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node and mapping said signaling target node name into a destination; and

detecting an unreachable destination and selecting another destination under the same signaling target node name.

37. (Original) The method of claim 36, wherein said destination is a peer signaling association.

38. (Original) The method of claim 36, wherein said destination is a transport address.

39. (Original) The method of claim 37, wherein the step of detecting an unreachable destination relates to an unreachable peer signaling association and/or an unreachable signaling transport address in a peer signaling association and the step of selecting another destination under the same signaling target node name relates to selecting another peer signaling association under said same signaling target node name.

40. (Original) The method of claim 38, wherein the step of detecting an unreachable destination relates to an unreachable transport address and the step of selecting another destination under the same signaling target node name relates to selecting another transport address under said same signaling target node name.

41. (Previously Presented) A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target nodes, said method comprising:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchanging signaling data via at least one destination;

running a user adaptation layer of the protocol stack on top of the signaling control layer for supporting signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node and mapping said signaling target node name into a destination; and

maintaining a data base storing name spaces in relation to destinations and related attributes.

42. (Original) The method of claim 41, wherein said destination is a peer signaling association.

43. (Original) The method of claim 42, wherein said destination is a transport address.

44. (Previously Presented) The method of claim 41, wherein the step of maintaining the database includes at least one step selected from a group consisting of signaling node registration, mapping node registration, signaling node deregistration, mapping node deregistration, and signaling node routing policy change registration.

45. – 57. (Canceled)

58. (Previously Presented) A communication apparatus running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising;

a first protocol implementation unit for running a signaling control layer of the protocol stack on top of a packet transfer network for exchanging signaling data via at least one signaling association;

a second protocol implementation unit for running a user adaptation layer of the protocol stack on top of said signaling control layer for supporting signaling connection control services used by the signaling source node; and

a name mapping unit for receiving a signaling target node name from the signaling source node and for mapping the signaling target node name into a peer signaling association.

59. (Previously Presented) The communication apparatus of claim 58, wherein said name mapping unit is implemented in the second protocol implementation unit.

60. (Previously Presented) The communication apparatus of claim 58, wherein said name mapping unit comprises a mapping data interface unit for distributing and/or receiving signaling association attributes via the signaling control layer.

61. (Previously Presented) The communication apparatus of claim 58, wherein said name mapping unit comprises a memory unit for storing signaling association attributes locally in the communication apparatus.

62. (Previously Presented) A communication apparatus running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising:

a first protocol implementation unit for running a signaling control layer (SCTP) of the protocol stack on top of a packet transfer network (IP) for exchanging signaling data via at least one signaling association;

a second protocol implementation unit for running a user adaptation layer of the protocol stack on top of said signaling control layer for supporting signaling connection control services used by the signaling source node; and

a name mapping unit for receiving a signaling target node name from the signaling source node and for mapping the signaling target node name into a peer signaling association, said mapping unit including a target node name resolution unit for mapping a destination name into the peer signaling association according to a specified algorithm, wherein the target node name resolution unit is a client/server type responding to name translation requests from signaling source node clients in a local and/or remote manner.

63. (Canceled)

64. (Previously Presented) The communication apparatus of claim 62, wherein when mapping the destination name into the peer signaling association, the target node name resolution unit considers at least one criterion selected from a group

consisting of target node capability, target node load, and routing criteria association attributes.

65. (Previously Presented) A communication apparatus running a protocol stack implementation for interworking between a signaling source node and a signaling target node, comprising:

a first protocol implementation unit for running a signaling control layer of the protocol stack on top of a packet transfer network for exchanging signaling data via at least one signaling association;

a second protocol implementation unit for running a user adaptation layer of the protocol stack on top of said signaling control layer for supporting signaling connection control services used by the signaling source node; and

a name mapping unit for receiving a signaling target node name from the signaling source node and for mapping the signaling target node name into a peer signaling association, said name mapping unit including a fault management unit for detecting an inoperative peer signaling association and/or an inoperative signaling transport address in a peer signaling association and for selecting another signaling transport address under the same signaling target node name.

66. (Previously Presented) A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, said method comprising:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchanging signaling data via at least one signaling association;

running a user adaptation layer of the protocol stack on top of the signaling control layer for supporting signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node; and

mapping the signaling target node name into a peer signaling association.

67. (Previously Presented) The method of claim 66, further comprising checking an availability of the peer signaling association and triggering a build-up thereof.

68. (Previously Presented) The method of claim 66, further comprising distributing and/or receiving signaling association attributes via the signaling control layer.

69. (Previously Presented) The method of claim 66, further comprising storing signaling association attributes locally at the signaling source node.

70. (Previously Presented) A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, said method comprising:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchanging signaling data via at least one signaling association;

running a user adaptation layer of the protocol stack on top of the signaling control layer for supporting signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node; and

mapping the signaling target node name into a peer signaling association said mapping step being carried out according to a specified algorithm.

71. (Original) The method of claim 70, wherein said specified algorithm is a query responsive database algorithm.

72. (Original) The method of claim 70, wherein said specified algorithm is a table lookup algorithm.

73. (Previously Presented) A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, said method comprising:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchanging signaling data via at least one signaling association;

running a user adaptation layer of the protocol stack on top of the signaling control layer for supporting signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node; and

mapping the signaling target node name into a peer signaling association, said mapping step including considering at least one criterion selected from a group consisting of target node capability, target node load, and routing criteria association attributes.

74. (Previously Presented) A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, said method comprising:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchanging signaling data via at least one signaling association;

running a user adaptation layer of the protocol stack on top of the signaling control layer for supporting signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node;

mapping the signaling target node name into a peer signaling association;

detecting an unreachable peer signaling association and/or an unreachable signaling transport address in a peer signaling association; and

selecting another signaling transport address under the same signaling target node name.

75. (Previously Presented) A method of running a protocol stack implementation for interworking between a signaling source node and a signaling target node, said method comprising:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchanging signaling data via at least one signaling association;

running a user adaptation layer of the protocol stack on top of the signaling control layer for supporting signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node;

mapping the signaling target node name into a peer signaling association; and

maintaining a data base storing name spaces and/or association attributes.

76. (Previously Presented) The method of claim 75, wherein the step of maintaining the data base includes at least one step selected from a group consisting of signaling node registration, mapping node registration, signaling node deregistration, mapping node deregistration, and signaling node routing policy change registration.

77. (Previously Presented) A computer program product directly loadable into the internal memory of a communication device, wherein, when the product is run on a processor of the communication device, the device performs the steps of:

running a signaling control layer of the protocol stack on top of a packet transfer network for exchanging signaling data via at least one signaling association;

running a user adaptation layer of the protocol stack on top of the signaling control layer for supporting signaling connection control services used by the signaling source node;

receiving a signaling target node name from the signaling source node; and

mapping the signaling target node name into a peer signaling association.